

WORD CHAINS

DARRYL FRANCIS

Hounslow, Middlesex, England

In the August 1968 Word Ways Henry E. Dudeney's book 300 Best Word Puzzles was reviewed and highly recommended to readers. After no little confusion on the part of one particular bookseller in New York we eventually managed to obtain a copy of this book.

One of the puzzles which caught our attention was Number 235, A New Word Chain. In this puzzle a chain of twenty-six words has to be formed such that each word begins with the last letter of the previous word. Dudeney points out that "for all the letters of the alphabet to be taken in their regular order is impossible owing to difficulties with Q, J and V as final letters." As we learned long ago, categorical statements concerning the impossible are to be regarded with some dubiety. The task we then set ourselves was to prove Dudeney's statement was false. We decided to construct two word chains, one as long as possible and one as short as possible, where the first word in each chain begins with an A and ends with a B, and the second word in each chain begins with a B and ends with a C. Continuing in this fashion through the alphabet, the penultimate word in each chain begins with a Y and ends with a Z, and the last word in each chain begins with a Z and ends with an A. This brings the total number of words in each chain to twenty-six.

In constructing these two chains, we restricted ourselves (under certain conditions) to any printings of the Second Edition of Webster's New International Dictionary and to any printings of Webster's Third New International Dictionary. We also allowed ourselves to accept any words in any of the addenda of any of the printings. Only when no word was found in the Webster dictionaries beginning and ending with the required letters did we venture beyond Websterian bounds. Thus, the Russian place-name NOVODESYATNIKOVO (which is listed in the Times Index-Gazetteer of the World) is not allowed because Webster's Second Edition lists the word NONPARIELLO. What this means is that because the Webster dictionaries contain no words beginning with an I and ending with a J, and none beginning with a U and ending with a V, so far as we could find, we are allowed to refer to any source in searching for such words. All of the remaining twenty-four words, though, have to be taken from the Webster dictionaries.

The shortest chain that we have come up with is as follows:

AB, BAC, COD, DE, EF, FIG, GASH, HI, IGEJ, JAK, KIL, LAM, MAN, NO, OP, PONTACQ, QUAR, RAS, SIT, TU, UNOV, VOW, WAX, XRAY, YEZ, ZA.

IGEJ is a Hungarian place-name that we took from the Times Index-Gazetteer of the World. UNOV is given in Frederick Webb Hodge's Handbook of American Indians North of Mexico (Rowman and Littlefield, New York, 1965). UNOV is another name for the settlement of San Dieguito in southern California. OP is a shortened form of OPTICAL ART, which is given in the addenda section to Webster's Third Edition. XRAY, written without a hyphen or a break, is a communications code word for the letter X.

We doubt whether this short chain can be improved, but, unlike Dudeney, we shall not make a statement of impossibility. If the reader feels he can improve it, we would certainly like to see the improved version.

In the case of the longest chain, we were undecided as to whether we should include hyphenated words or not. To circumvent our indecision, we have listed both the longest hyphenated and the longest unhyphenated words in those cases where the hyphenated word is longer than the unhyphenated word. Our longest chain is:

ABSCOULOMB, BACTERIOTHERAPEUTIC, CHONDROALBUMINOID, DIPHENYLQUINOMETHANE, ENKERCHIEF (or EARTHQUAKE - PROOF), FABLEMONGERING (or FERTILIZER - CRUSHING), GRASSHOPPERISH, HOMALOSTERNII, INATHGANJ, JESTINGSTOCK, KINEMATOGRAPHICAL, LAEMODIPODIFORM, MICRODETERMINATION, NONPARIELLO (or NOV - ESPERANTO), OBSERVERSHIP, PONTACQ, QUINQUETUBERCULAR, REPRESENTATIONALISTS, SUPERACKNOWLEDGEMENT, TOROROKONBU, ULANOV, VANDEW, WHEELBOX, XYLOGRAPHICALLY, YEZ, ZONOPLACENTALIA.

INATHGANJ is a place in Pakistan, and ULANOV is a place in the U. S. S. R. Both of these names can be found in the Times Index-Gazetteer. The hyphenated word FERTILIZER-CRUSHING does not appear in all the printings of the Second Edition. Those printings which do list it give it in column 3 on page 936.

The reader will note that two of the words in this long chain also occurred in the short chain. The two words are PONTACQ and YEZ. Can the reader improve on any of the words in this long chain, bearing in mind the rules that governed its construction? For the really enterprising reader, we suggest the construction of a chain as long

as possible which utilizes words from any English-language reference works.

The chains that we have mentioned so far are what we call forward chains. They have the first word beginning with A and ending with B, and continuing through the alphabet the last word begins with a Z and ends with an A. In the reverse manner to forward chains there exist backward chains. The first word in a backward chain begins with a Z and ends with a Y, and so on through the alphabet. The last word in a backward chain begins with an A and ends with a Z. Would the reader like to try his or her hand at the construction of various backward chains? For the longest possible chain, we suggest ZYGOMATIL-COMAXILLARY and YUNX as the first two words. For the last two words we suggest BLEPHAROBLENNORRHEA and AUSTERLITZ. In the case of the shortest backward chain, we suggest the reader begins with ZANY and YEX, and ends with BA and ADZ. The task of filling in the remaining two groups of twenty-two words is the reader's.